

Appleby Archaeology Group

The Autumn series of talks started on Tuesday the 8th of October when John Wilson gave an interesting and informative talk on lead mining in the North Pennines. More members were present and enjoyed the comfort of the new venue of the Supper Room, Market Hall, Appleby.

John Wilson spoke on three aspects of lead mining: how lead mining was organised, the processes of obtaining lead and the lives of the miners.

Two companies, The London Lead Company and W B Lead were responsible for most of the mining in the North Pennines in the 18th and 19th century. The industry collapsed in the 1870s when cheaper imports and the loss of exports brought a fall in prices.

There is evidence of that the Elizabethans had mined, digging surface pits and flushing out the ore with water leaving scars of hushes visible on the hillsides. It has not yet been proved that the Romans mined in the North Pennines.

John explained that minerals are found in the rocks of the North Pennines as veins which occur in vertical planes. Minerals found include lead ore (galena), silica, barites and quartz. The lead veins run in a north east south west direction and as they run parallel to one another one tunnel or level can pass through several veins. The lead industry involves four processes: mining, ore separation, smelting and production of lead for use. He described the first two in some detail.

The miners drove a tunnel through the veins and where the ground was unstable the tunnels were lined with stone as stone was more available and cheaper than wood. The dry stone walls allowed for drainage of water. Corbelled arches are evident, built from the debris of tunnelling. Tunnelling was done by two men working together hammering and chiselling away to make holes to put black powder in, dynamite was used laterally. The main problems were too much water and too little air. The gradient would allow water to flow out but if below the drainage level water had to be pumped out. Conditions were very dusty and the miners suffered from *black spit* within three years of going down the mine and had a life expectancy of not more than 45 years. They wore wooden clogs which led to foot rot and gangrene. As miners had to buy their own candles they used them economically and would walk to and from the mine face without a light using

sticks to tap their way in the darkness. Artefacts that have been found included candles and clay pipes.

They started work on the surface at 9 years and went down the mine at 17. The youngsters dressed the ore, about 12% of which was galena. Dressing the minerals involved separating out the lead ore from the rocks. Boys worked in pairs dressing up to 30 tons in a 13 hour day. It was sorted manually broken down to remove the waste and the galena separated out by washing and sieving.

John referred in particular to Killhope and showed slides of the surrounding landscape which demonstrated a wealth of industrial archaeology and the impact upon the environment of mining. In the first half of the 20th century Killhope became derelict. In 1980 restoration started and in 1985 an archaeological excavation took place but we were told much remains to be excavated. The landscape in the area shows not only the physical remains of mining such as derelict buildings, but also the changes in farmsteads and villages.

Miners were encouraged to have a smallholding and needed time off for harvesting and to collect peat. The small holdings utilised land in the vicinity of the mines and as a consequence any existing hamlets increased their size. W B Lead built schools as it required the boys to read and write and the influence of John Wesley in the late 18th century resulted in the building of chapels. Many of these buildings are features of today's landscape.

A number of questions were asked before John Wilson was thanked for giving such a good insight to the lives the lead miners and the industrial past of the North Pennines.